USIB-D-34.4/4
27 December 1962

UNITED STATES INTELLIGENCE BOARD

MEMORANDUM FOR THE UNITED STATES INTELLIGENCE BOARD

SUBJECT: Scientific and Technical Intelligence - General (Recommendation No. 15 of the 4 October 1961 Report to the President by the President's Foreign Intelligence Advisory Board)

REFERENCES:
(a) USIB-D-34.4/1, 30 October 1961
(b) USIB-D-34.4/2, 21 May 1962
(c) USIB-D-34.4/3, 6 August 1962
(d) USIB-M-229, 15 August 1962, Item 8
(e) Memorandum for USIB Members from Assistant for Coordination, subject: "Scientific and Technical Intelligence - General," dated 27 August 1962

1. The Coordination Staff memorandum at Attachment A hereto submits for USIB consideration and approval a draft "Assessment of Scientific and Technical Intelligence" (see Attachment C) and a proposed memorandum for transmitting same to the Special Assistant to the President for National Security Affairs and the President's Foreign Intelligence Advisory Board (See Attachment B). As indicated in [redacted] memorandum the above-cited Assessment and accompanying transmittal memorandum together with relevant financial data (Attachment D) have been developed in accordance with USIB instructions in reference (d).

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2. The subject matter will be scheduled on the agenda of the 9 January USIB Meeting at which time the Board will be asked to take action, as recommended in paragraph 5 of Attachment A, i.e., "...approve the draft transmittal memorandum from the Chairman, USIB, to Mr. Bundy (Attachment B), including the recommendations in paragraph 5 thereof, and the Assessment in Attachment C."

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Attachments (4)

A Memorandum for Chairman, USIB, from Assistant for Coordination/DCI

B Proposed Memorandum for Special Assistant to the President for National Security Affairs and the President's Foreign Intelligence Advisory Board

C Assessment of Scientific and Technical Intelligence

D Estimated Financial Costs of Actions Under Way or Recommended for Improving the Collection, Coordination and Analysis of Intelligence on the Scientific and Technical Capabilities of the Soviet Bloc

USIB-D-34.4/4
21 December 1962

Office of
THE DIRECTOR OF CENTRAL INTELLIGENCE
Washington 25, D. C.

21 December 1962

MEMORANDUM FOR: Chairman, United States Intelligence Board

SUBJECT: Scientific and Technical Intelligence - General (Recommendation No. 15 of the 4 October 1961 Report to the President by the President's Foreign Intelligence Advisory Board)

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(d) USIB-M-229, 15 August 1962, Item 8
(e) Memorandum for USIB Members from Assistant for Coordination, subject: "Scientific and Technical Intelligence - General," dated 27 August 1962

1. The attached draft assessment and accompanying transmittal memorandum revised in accordance with Reference (d) are submitted for consideration by the United States Intelligence Board (USIB) as a response to the subject recommendation of the President's Foreign Intelligence Advisory Board.

2. It has now been determined that of the twelve recommendations contained in the first draft submitted to the USIB on 21 May 1962, action is currently being taken by the agencies concerned on seven. Three recommendations have been withdrawn after review by the SIGINT Committee and the Defense Intelligence Agency, and the two remaining recommendations are retained in Paragraph 5 of Attachment B hereto.

3. In accordance with Reference (d), the views of the USIB members regarding specific actions and estimated costs to implement the measures recommended in USIB-D-34.4/3, and any other measures deemed appropriate as a response to the subject recommendation of the President's Foreign Intelligence Advisory Board, have been obtained. Proposals regarding appropriate measures have been reflected in the attached draft.

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4. With respect to costs, only the Central Intelligence Agency was able to furnish a limited amount of specific data. The Defense Intelligence Agency, Army, Navy and Air Force indicate that, owing partly to the current status of reorganization and realignment of intelligence functions within the Department of Defense, and in view of certain studies and related planning on which final decisions have not been made, specific data cannot be furnished. It is noted also that a number of the actions and recommendations would not require specific additional manpower or funds. A summary of the responses of the agencies with respect to costs is appended as Attachment D.

5. It is recommended that USIB approve the draft transmittal memorandum from the Chairman, USIB, to Mr. Bundy (Attachment B), including the recommendations contained in Paragraph 5 thereof, and the Assessment in Attachment C.

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Assistant for Coordination

Attachments: 3
1. Draft transmittal memo
2. Draft assessment
3. Estimated financial costs of action

Next 5 Page(s) In Document Denied

Attachment C
USIB-D-34.4/4
21 December 1962

ASSESSMENT OF SCIENTIFIC AND TECHNICAL INTELLIGENCE

Assessment of Scientific and Technical Intelligence

1. General

The intelligence community at present is providing the policy and planning elements of the Government with reasonably adequate intelligence on the overall basic scientific and technical capabilities of the Soviet Bloc. Although in the aggregate this intelligence is satisfactory, it is not completely comprehensive and on a few areas of basic science and technology [redacted] 25X1

25X1 [redacted], intelligence coverage of Soviet Bloc activity is incomplete. Generally, however, such areas are those which have been deemed, after careful consideration, to be of lesser importance or in which significant scientific and technical advances are least likely to occur in the immediate future. A significant body of information is available on a continuous basis from overt sources and other collection facilities relating to Soviet Bloc basic scientific and technical capabilities. Although certain steps are desirable to increase the receipt of such information, the most urgent problems relate to the translation and organization of this information so that it can be disseminated and made readily accessible to intelligence analysts and other users.

Intelligence on the application of Soviet Bloc basic scientific capabilities to the achievement of specific objectives and end products, however, is inadequate. This inadequacy is becoming more acute due to the world-wide technological "explosion" and the concomitant increasing competence and sophistication of Soviet science and technology. The principal deficiency is the lack of hard, factual information on the

The analytical efforts of the intelligence community in scientific and technical intelligence serve two quite distinct kinds of customers. On the one hand are the policy makers and operational officials of the Government, on the other hand, the research and development organizations and activities of the Government. The needs of these two types of consumers are different (although not incompatible) and this fact raises some problems with respect to the organization and coordination of the analytical effort as a whole.

There are within all elements of the community a recognition of the importance of scientific and technical intelligence concerning the Soviet Bloc, and a desire to take every possible step to improve the United States capability to foresee and to profit by Soviet scientific and technical developments.

2. Exploitation of Open Literature

Several studies have been undertaken to determine whether Soviet scientific and technical trends and capabilities might be assessed, well in advance, from available open literature, if such literature were adequately exploited. Although these studies have not be conclusive, having the element of hindsight, it is possible to generalize that a vast amount of scientific and technical information does exist in unexploited literature. This information is of use and value to the U. S. scientific community at large, as well as to the intelligence community, and the problems involved in making it readily available are shared by both groups.

The first step in making the scientific and technical information contained in Soviet Bloc literature available is that of converting it, by translation (or by abstracts, which necessitate translation) into the English language. The current effort in thus exploiting such literature is almost entirely dependent upon human, manual translation to English text. Of the estimated 3.5 million pages of Soviet Bloc literature available, approximately one-half are believed to contain information of some scientific or technical intelligence value, and only 300,000 pages are being translated annually. It is generally recognized that unless a practical machine translation capability can be developed, there may be no practicable solution to this problem. Considerable progress has been made toward this end, although additional efforts and funds will be required before the adequate capability can be realized in practice. Therefore, efforts to develop such capability should be continued on an accelerated basis.

In the interim, however, greater use should be made of available human resources to accomplish translations. There are, for example, 25X1 approximately [ ] qualified translators, with scientific and technical competence, presently available of whom approximately [ ] are currently 25X1 under contractual arrangements with CIA as part of its service of common concern. Many of these translators are not now being fully utilized. CIA should explore with other interested agencies, the possibility of their making greater use of this translator resource which is available to them on a reimbursable basis. An additional [ ] for example, 25X1 would more than double the amount of scientific and technical information currently being obtained from Soviet Bloc open literature through this facility. Both human and machine translation efforts must be accompanied by increased endeavors to improve the process of selecting that portion of the body of literature which does, in fact, contain useful information.

The problem of processing and storing the mass of unclassified data obtained from open literature in a manner which will permit its speedy retrieval is a matter of concern to the scientific community as well as to the intelligence community. No mechanism entirely satisfactory to either group now exists. It is clearly desirable, however, that the intelligence community cooperate as fully as possible with scientific groups seeking to resolve this problem in order to avoid unnecessary duplication and take full advantage of non-intelligence activities and arrangements. It is noted that a comprehensive study has been approved by the United States Intelligence Board which, among other objectives, attacks some aspects of this problem. SCIPS

4. Exploitation of Materiel

A certain amount of Soviet Bloc materiel (hardware) has been collected and exploited by the intelligence community to further the assessment of the scientific and technical capabilities of the Soviet Bloc. In some instances, however, there has been duplicative effort in acquiring the same types of equipment, although for some types of materiel duplicate acquisition is desirable in order to permit thorough exploitation. Additionally, for budgetary or other reasons, some equipment which has been collected has not been fully analyzed and exploited on a timely basis. Moreover, it appears that there is available some Soviet Bloc materiel which could be of use to the intelligence effort which has, in fact, not been collected. Consequently, a much greater community-wide effort should be directed toward: (1) acquisition of Soviet Bloc materiel and (2) full and timely intelligence exploitation. This will require community-wide coordination to ensure prompt evaluation by technically qualified personnel and timely dissemination of finished intelligence reports to the community and to the research and development activities responsible for U. S. offensive and defensive weapons systems. The Defense Intelligence Agency (DIA) and CIA should jointly review this matter and submit recommendations for United States Intelligence Board (USIB) consideration.

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(g) In the use or deployment of some technical collection systems, increased information could be obtained through further use of such systems in conjunction with military operational components. The Secretary of Defense should establish procedures which will, to the maximum feasible extent, permit both further use of designated operational components in connection with specific technical collection systems, and expeditious deployment of additional facilities when dictated by particular Soviet Bloc activities.

8. The Analysis Task

National Security Council Intelligence Directive (NSCID) No. 3, paragraph 7.c., assigns responsibility for the production of scientific and technical intelligence to CIA as a service of common concern. The directive also states (paragraph 7.b.): "The Department of Defense shall produce military intelligence. This production shall include scientific, technical and economic intelligence directly pertinent to the missions of the various components of the Department of Defense." Although explicit definition of and delineation between these two responsibilities has not been stated and indeed perhaps is not susceptible to such statement, there is, in fact, relatively little unwarranted duplication or overlap of effort between the analysis activities of the military services and CIA. Among the military services themselves there is a natural division of effort, based upon their respective operational and research and development responsibilities within the Department of Defense. There are, however, certain problems in the scientific and technical intelligence field (of which the Soviet anti-ballistic missile program, the development of Soviet intercontinental ballistic missiles, the Soviet submarine program, and Soviet space activities are examples) which are of priority importance to the national security, and on which it is difficult to reach firm intelligence conclusions. Consequently, all agencies are justified in devoting to these problems such resources and analytical efforts as are available. In these fields diversified

approaches will increase the likelihood of reaching a sound understanding of Soviet activities, capabilities and vulnerabilities. Under these circumstances, it is essential that there be a full exchange of information among the participating agencies, and that each be kept aware of the analytical efforts of the others in these fields. This is generally being done, both through liaison at the technical working level, and through the facilities of the Scientific Intelligence Committee, the Guided Missile and Astronautics Intelligence Committee, and the Joint Atomic Energy Intelligence Committee.

The CIA has made conscientious and largely successful efforts to eliminate unwarranted duplication of its effort with that of components of the Department of Defense; at this time, however, CIA, in consultation with DIA, should further re-examine its programs and activities in the light of changes now taking place in the intelligence community. The facilities of the Scientific Intelligence Committee should be used, as appropriate, for this purpose.

We are aware that duplication of effort may exist in certain technical fields between elements of the intelligence community in Washington on the one hand and intelligence organizations of certain military commands on the other. We note that the Department of Defense is currently examining the allocation of intelligence resources to the various military commands.

There is general agreement among the elements of the community engaged in the analysis of Soviet Bloc scientific and technical

capabilities that there are basically two types of consumers of the product of their analyses: (a) policy and operating officials, and (b) research and development components. It is also recognized that, although the needs of these two consumers are different, they are not incompatible, but are in some respects complementary, in that work devoted to meeting either need assists in meeting the other. There is no doubt that intelligence, by furnishing knowledge and information on foreign scientific and technical capabilities, trends and developments, can significantly assist and expedite our own research and development effort, and that for this assistance to be most effective, the intelligence components concerned must be put into a close and harmonious relationship with research and development activities. Conversely, this relationship can be of great benefit to intelligence, through the availability and use of the scientific talent within the research and development community, in solving problems of intelligence analysis and collection.

The United States Intelligence Board believes that arrangements within the Department of Defense for scientific and technical intelligence should provide, under the staff supervision of the Defense Intelligence Agency, for the strengthening of organizations and programs designed to render intelligence support to and receive assistance from research and development components, and for the utilization of the resources and services of such organizations and programs in preparing contributions to intelligence estimates. Similarly, the CIA

should continue and strengthen its program of support to research and development components of the Government outside the Department of Defense and the Atomic Energy Commission. The Atomic Energy Commission should similarly continue and strengthen its program of intelligence support to its own research and development activity as well as its contribution to the intelligence community.

In drawing conclusions and making estimates as to Soviet activities and developments, intelligence analysts frequently base their reasoning, in whole or part, upon analogous U. S. experiences in the particular activity in question. While it is recognized that in some cases the paucity of information on a Soviet activity leaves no alternative except to rely largely upon analogous U. S. experience, this kind of reasoning can lead to false or misleading conclusions, and every effort should be made to avoid undue reliance upon it in drawing conclusions as to the nature of Soviet scientific or technical developments.

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10. Security and Personnel

In the course of this assessment of scientific and technical intelligence activities, the existence of complex security compartmentation of information was frequently cited as an impediment to collection, coordination and analysis efforts throughout the community. Joint Study Group Recommendation No. 14 also drew attention to this general problem and as a result the United States Intelligence Board has approved certain recommendations by its Security Committee to deal with this matter.

The problem of recruiting and retaining competent scientists in intelligence is shared by other Government activities requiring scientific personnel. The resolution of the problems will require Government-wide action. In the meanwhile, however, it is urged that each agency review its practices as related to scientific and technical personnel, to ensure that full advantage is taken of the provisions of existing law and civil service regulations respecting their pay and status.

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